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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,723	08/18/2003	Scott D. Walck	1653P1	4393
7590	06/24/2005		EXAMINER	
PPG INDUSTRIES, INC. INTELLECTUAL PROPERTY DEPT. ONE PPG PLACE PITTSBURGH, PA 15272			YAMNITZKY, MARIE ROSE	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/642,723	WALCK ET AL.
	Examiner	Art Unit
	Marie R. Yamnitzky	1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 04 April 2005.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 47-60,81-93 and 95-99 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 55-58,60,88-93,98 and 99 is/are allowed.

6) Claim(s) 47-54,59,81,82,85-87 and 95-97 is/are rejected.

7) Claim(s) 83 and 84 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

1. This Office action is in response to applicant's amendment received April 04, 2005, which cancels claims 46 and 94, amends claims 47-55, 59, 81, 82, 85-87, 93 and 95, and adds claims 96-99.

The examiner notes that the status identifier for claim 60 should read --(original)-- rather than "(previously presented)".

Claims 47-60, 81-93 and 95-99 are pending.

2. The rejections of claim 95 under 35 U.S.C. 112, 1st paragraph (lack of written description and lack of enablement), are overcome by applicant's amendment.

The rejections of claim 94 under 35 U.S.C. 112, 2nd paragraph, 35 U.S.C. 102(b) and 35 U.S.C. 103(a) are rendered moot by claim cancellation.

The rejection of claims 48, 50, 85 and 93 under 35 U.S.C. 112, 2nd paragraph, is overcome by applicant's amendment.

The rejections of claim 46 under 35 U.S.C. 102(b) and 103(a) are rendered moot by claim cancellation.

The rejection of claims 47, 49, 51-53, 81, 82 and 85-87 under 35 U.S.C. 102(b) as anticipated by Meijer (US 2,878,606) is overcome by applicant's amendment. (Meijer is reapplied to these claims under 35 U.S.C. 103(a).)

The rejection of claims 47, 49, 51-53, 55-58, 60, 81-83, 85, 86, 88-91 and 93 under 35 U.S.C. 102(b) as anticipated by Downing et al. in *Science*, Vol. 273, pp. 1185-1189, is overcome by applicant's amendment.

The rejection of claims 47, 49, 51-53, 55-58, 60, 81-86 and 88-93 under 35 U.S.C. 103(a) as unpatentable over Pollack (US 4,935,722) in view of Pinchok, Jr. et al. (US 5,653,903) is overcome by applicant's amendment.

3. Claim 59 stands rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not enable one to make and/or use the invention as claimed in claim 59 which requires a dye-doped dendrimer that is capable of up-conversion of infrared energy into visible radiation. The specification does not provide any specific examples of a dye-doped dendrimer that is an up-conversion material, and there are no references of record to demonstrate that dye-doped dendrimers capable of up-conversion are known.

4. Claims 96 and 97 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitations of claims 96 and 97 as dependent from claim 46, which has been cancelled, are not clear. (Based on applicant's remarks on page 17 of the amendment received April 04, 2005, "46" should read --50-- in claims 96 and 97.)

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 47-54, 81, 82, 85-87 and 95-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meijer (US 2,878,606).

Claims 96 and 97 are included in this rejection as if dependent from claim 50.

See the whole patent. In particular, see Figures 4-9, column 2, line 36-c. 3, l. 31 and c. 3, l. 38-60.

The laminated article of claim 50, with claims 47-49, 51-53, 81, 82, 85-87 and 95-97 dependent directly or indirectly therefrom, requires a member that passes less than 50% of the wavelengths within the predetermined absorption band impinging on the member. Meijer teaches that one of the two outer sheets of the laminate absorbs ultraviolet rays up to about 3500 angstrom units. That is, one of the two outer sheets does not transmit 100% of the wavelengths within the absorption band of the light emitting material. Meijer does not explicitly disclose having an additional UV-absorbing layer between the UV-absorbing outer sheet and the light emitting material. Meijer teaches that the laminate may have more than three sheets of plastic (c. 3, l. 16-23). It would have been a *prima facie* obvious modification to one of ordinary skill in the art at the time of the invention to include one or more UV-absorbing sheets between the light emitting layer and the UV-absorbing outermost sheet in laminates having more than three sheets

in order to provide one or more additional layers of protection against sun exposure. Duplication of parts has no patentable significance unless a new and unexpected result is produced.

With respect to claim 47, Meijer does not disclose any specific light emitting materials, but the possibilities recited in claim 47 encompass all possible light emitting materials. Organometallic light emitting materials are a subset of organic light emitting materials, and if a material is not organic, it is inorganic.

With respect to claim 51, the recitation that the laminated article is an “automotive transparency” places no positive limitations on the structure/composition of the claimed laminated article.

With respect to claim 81, the function of the functional coating is not limited, and Meijer discloses laminates meeting the limitations of claim 81. Either of binder layers **12a** as shown in Fig. 6 of the patent, for example, meets the limitations of a functional coating as required by claim 81. The skim coat described in c. 3, l. 38-50 and the colored non-translucent pattern described in c. 51-60 also meet the limitations of a functional coating as required by claim 81.

With respect to the emission and absorption wavelength ranges set forth in claims 50, 54, 86 and 87, Meijer anticipates these ranges in teaching that the fluorescent material is excited by ultraviolet rays and emits visible light.

The subset of light emitting materials required for claims 48 and 54 is not taught by Meijer, but these claims encompass fluorescent materials that were known in the art at the time of the present invention and that are capable of being excited by ultraviolet light to emit visible light. It would have been within the level of ordinary skill of a worker in the art at the time of

the invention to select suitable fluorescent materials from known fluorescent materials having the excitation and emission characteristics required for the fluorescent material of Meijer's fluorescent sign.

7. Applicant's arguments filed April 04, 2005 have been fully considered but they are not persuasive with respect to the rejections set forth in this Office action.

Regarding the rejection of claim 59 under 35 U.S.C. 112, first paragraph, the *Applied Physics Letters* article referenced by applicant describes a dye-doped dendrimer, but the dye-doped dendrimer is not capable of up-conversion of infrared energy into visible radiation as required by claim 59.

Regarding the patentability of claims 47-53, 81, 82, 85-87 and 95-97 over the Meijer patent, applicant argues that Meijer would not lead one skilled in the art to provide a member that passes less than 50% of the radiation in combination with a first transparent sheet and a second sheet because Meijer's exposed sheet is capable of transmitting visible light only. Applicant argues that there is therefore no reason to provide an additional sheet or member to block out the UV radiation. These arguments are not persuasive because Meijer's exposed sheet may not absorb 100% of the UV radiation impinging on it. For example, as taught at c. 1, l. 40-46, the exposed layer will be "to a greater or less extent impervious to ultraviolet rays" and as taught at c. 3, l. 2-7, the exposed layer will bar or "substantially" limit the contact of deleterious light rays from the sun (i.e. the UV rays) with the fluorescent pigment. Based on Meijer's teachings as a whole, it is clear that it is preferred that no UV rays reach the fluorescent pigment

from the side of the laminate that is exposed to sunlight, but that it is possible that some UV rays may pass through the outermost layer. The examiner maintains the position that it would have been a *prima facie* obvious modification to one of ordinary skill in the art at the time of the invention to include one or more UV-absorbing sheets between the light emitting layer and the UV-absorbing outermost sheet in laminates having more than three sheets in order to provide one or more additional layers of protection against sun exposure.

Regarding the patentability of claim 54 over the Meijer patent, applicant argues that the prior Office action did not take into consideration that the dye-doped dendrimer [is] related to an encapsulated dye. Applicant argues that the Office action did not show any teaching that would lead one to use an encapsulated fluorescent material for the fluorescent material of Meijer. These arguments are not persuasive. The examiner maintains the position that it would have been within the level of ordinary skill of a worker in the art at the time of the invention to select suitable fluorescent materials from known fluorescent materials having the excitation and emission characteristics required for the fluorescent material of Meijer's fluorescent sign. A dye-doped dendrimer such as required by claim 54 is known. For example, the *Applied Physics Letter* article referenced by applicant in traversing the rejection of claim 59 under 35 U.S.C. 112, first paragraph, discloses a dye-doped dendrimer which possesses the excitation and emission characteristics required for the fluorescent material of Meijer's fluorescent sign.

8. **Miscellaneous:**

In claim 48, the quotation marks before the last word in line 2 should be deleted.

In claim 59, either the semicolon or the comma in line 8 should be deleted.

In claim 81, "the" in line 1 should read --The--.

9. Claims 55-58, 60, 88-93, 98 and 99 are allowed.

10. Claims 83 and 84 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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12. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for Art Unit 1774 is (703) 872-9306 for all official faxes.
(Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
June 22, 2005



MARIE YAMNITZKY
PRIMARY EXAMINER

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